

PAGE 9/42 \* RCVD AT 2/17/2004 4:06:36 PM (Eastern Standard Time) \* SVR:USPTO-EFXRF-1/0 \* DNIS:8729306 \* CSID:RightFAX \* DURATION (mm-ss):18-54

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

### Complete If Known

Application Number	10/090,040
Filing Date	March 1, 2002
First Named Inventor	Brownell, et al.
Art Unit	1724
Examiner Name	Robert A. Hopkins
Attorney Docket Number	410193.90155

Sheet 1 of 5

### U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
RAH		US- RE 34,836	08/14/1994	Bivens	
		US- 3,970,558	07/20/1976	Lee	
		US- 4,082,661	04/04/1978	Aoki et al.	
		US- 4,104,163	08/01/1978	Grutsch	
		US- 4,118,206	10/03/1978	Hagendoorn	
		US- 4,172,031	10/23/1979	Hall et al.	
		US- 4,177,142	12/04/1979	Halbfoster	
		US- 4,231,788	11/04/1980	Seibert et al.	
		US- 4,238,334	12/09/1980	Halbfoster	
		US- 4,328,105	05/04/1982	Arbuckle	
		US- 4,486,622	12/04/1984	Takagi et al.	
		US- 4,595,509	08/17/1986	Fox et al.	
		US- 4,645,605	02/24/1987	Durham	
		US- 4,721,624	01/26/1988	Schumann	
		US- 4,805,525	02/21/1989	Bivens	
		US- 4,816,499	03/28/1989	Nomura et al.	
		US- 4,908,050	03/13/1990	Nagashima et al.	
		US- 5,003,693	04/02/1991	Atkinson et al.	
		US- 5,154,743	10/13/1992	Takato et al.	

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>3</sup>
		Country Code <sup>4</sup> Number <sup>5</sup> Kind Code <sup>6</sup> (if known)				
RAH		GB 1,014,594	12/31/1965	Orto Clair Norton		
		GB 1,255,268	12/01/1971	US Atomic Energy Comsn		
		DD 74,899	07/12/1970	Karl Winter		
		EP 1,238,679	09/11/2002	ENEA		
RAH		WO 02/070105A2	09/12/2002	Johnson, James R.		

Examiner Signature	Robert A. Hopkins	Date Considered	5-15-04
--------------------	-------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbol as indicated on the document under WIPO Standard ST. 18 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public action is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-768-9199) and select option 2.

5553744

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<i>Complete if Known</i>	
		Application Number	10/090,040
		Filing Date	March 1, 2002
		First Named Inventor	Brownell, et al.
		Art Unit	1724
		Examiner Name	Robert A. Hopkins
Sheet 2 of 5	Attorney Docket Number	410193.90155	

OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
RAH		G. Elliott et al, "The increasing Use of Ceramic Filters in Air Pollution Control Applications," <i>Filtr. Sep. Vol. 34 No. 4 pp. 331-335, 1997, Elsevier Science Ltd.</i>	
RAH		N. Singh et al, "Process Design and Economic Analysis of a Ceramic Membrane System for Microfiltration of Corn Starch Hydrolysate," <i>Journal of Food Engineering, Vol. 38 No. 1 pp. 57-67, 1998 Elsevier Science Ltd.</i>	

Examiner Signature	<i>Robert A. Hopkins</i>	Date Considered	5-15-04
--------------------	--------------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.88. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9198 (1-800-786-9198) and select option 2.

5553744

Please type a plus sign (+) inside this box → +

PTO/SEA/08A (08-00)

Approved for use through 10/31/2002.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 144BA/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 3

3

of

5

**Complete if Known**

Application Number	10/090,040
--------------------	------------

10/090,040

<b>Filing Date</b>	<b>March 1, 2002</b>
--------------------	----------------------

**March 1, 2002**

First Named Inventor	Brownell, et al.
----------------------	------------------

Brownell, et al.

Group Art Unit	1724
----------------	------

1724

Examiner Name	Robert A. Hopkins
---------------	-------------------

Robert A. Hopkins

Attorney Docket Number	410193-90155
------------------------	--------------

410193.90155

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.†	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code* (if known)			
RAH		5,776,364		van der Meer et al.	07/07/1998	
		5,810,895		Staeble et al.	09/22/1998	
		5,997,618		Schneider et al.	12/07/1999	
		6,010,558		Ackland	01/04/2000	
		6,077,335		Schneider et al.	06/20/2000	
		6,077,800		Takahashi et al.	06/20/2000	
		6,095,037		Savage et al.	08/01/2000	
		6,168,651		Tuma et al.	01/02/2001	
		6,340,379		Penth et al.	01/22/2002	
		6,432,177		Dallas et al.	08/13/2002	
		6,464,770		Palm et al.	10/15/2002	
		5,776,354		van der Meer et al.	07/07/1998	
		5,700,973		Siddiqui	12/23/1997	
		4,485,622		Takagi et al.	12/04/1984	
		5,632,889		Tharp	05/27/1997	
		6,605,848		James R. Johnson	08/12/2003	
		5,750,026		Gackaree et al.	05/12/1998	
		5,766,458		Sekhar et al.	06/16/1998	
		4,388,086		Bauer et al.	06/14/1983	
LEAH		4,350,504		Diachuk	09/21/1982	

**FOREIGN PATENT DOCUMENTS**

[illegible]

**Examiner  
Signature**

Date Considered

5-15-04

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

5560361

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

<b>Application Number</b>	<b>10/090,040</b>
<b>Filing Date</b>	<b>March 1, 2002</b>
<b>First Named Inventor</b>	<b>Brownell, et al.</b>
<b>Group Art Unit</b>	<b>1724</b>
<b>Examiner Name</b>	<b>Robert A. Hopkins</b>
<b>Attorney Docket Number</b>	<b>410193.90155</b>

Examiner Initials	Cite No.1	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Paragraph or Relevant BRIEF ABSTRACT
		Number	Kind Code (if known)			
RAH		4,126,433		Forsberg et al.	11/21/1978	
		6,641,788		Onawa et al.	11/04/2003	
		5,145,848		Miyahara et al.	09/08/1992	
		5,876,221		Bowman et al.	11/02/1999	
		5,792,380		Alcar	08/11/1998	
		4,682,982		Fuchs	07/28/1987	
		6,074,177		Kobayashi et al.	06/13/2000	
		5,133,786		Anderson	07/28/1992	
		4,292,285		Nakao et al.	09/29/1981	
		5,145,848		Miyahara et al.	09/08/1992	
		8,010,658		Ackland	01/04/2000	
		5,828,916		Stevens et al.	05/13/1997	
		5,824,875		Nakanishi et al.	04/29/1997	
		5,587,090		Basak et al.	10/22/1996	
		5,512,088		McKenzie	04/30/1996	
		5,488,370		Bivens	01/23/1996	
		5,442,924		Tsai et al.	08/22/1995	
		5,404,799		Bivens	04/11/1996	
		5,209,887		Von Blucher et al.	05/11/1993	
RAH		2003/0024393		Lim	02/08/2003	

[illegible]

5-15-04

PAGE 7/41 \* RCVD AT 4/19/2004 3:38:47 PM [Eastern Daylight Time] \* SVR:USPTO-EFXRF-3/25 \* DNIS:2731159 \* CSID:RightFAX \* DURATION (mm-ss):14-58

PTO/SB/CBA (08-00)

Approved for use through 10/31/2002 OMB 0461-0014

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.